



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor : Marioara Mendelovici et al.	Art Unit : 1626
Serial No.: 10/090,710	Examiner : SHAMEEM GOLAM M.
Filing Date: March 4, 2002	

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For: PROCESS FOR THE PREPARATION OF 1,2-BENZISOXAZOLE-3-ACETIC ACID

Commissioner for Patents  
P.O. Box 1450  
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Date: June 5, 2003

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AMENDMENT UNDER 37 C.F.R. § 1.111

SIR:

In response to the Office Action dated March 5, 2003, Applicants respectfully submit the following amendments and remarks. No fee is believed to be due. However, the Commissioner is authorized to charge any fees or credit any overpayments under 37 C.F.R. §1.16 or §1.17 to Deposit Account No. 11-0600.

**In The Claims:**

Please cancel claims 1-10, 20 and 22, without prejudice.

Please add the following new claims:

24. (New) The process according to claim 11, wherein the isolating step is performed by precipitation from water.
25. (New) The process according to claim 24, wherein the precipitation is performed in the presence of a barium salt.
26. (New) The process according to claim 24, wherein the precipitation is performed in the presence of a calcium salt.
27. (New) The process according to claim 11, wherein the 1,2-benzisoxazole-3-acetic acid is selectively sulfonated to form the salt of benzisoxazole methane sulfonic acid in the sulfonating step.
28. (New) The process according to claim 27, wherein the salt of benzixazole methane sulfonic acid has high purity.

### **Status of the Claims:**

Claims 1-23 were originally submitted. Claims 11-19, 21 and 23 were elected in response to a restriction requirement and applicants reserve the right to prosecute the canceled claims (i.e., claims 1-10, 20 and 22) and any unclaimed subject matter. New claims 24-28 are added. Support for the newly added claims can be found in specification (i.e., Table 1 and page 7, lines 4-7 and page 4, lines 1-20). No new matter is introduced.

The pending claims 11-19, 21 and 23 stand rejected under 35 U.S.C. §103(a) as obvious over U.S. Pat. No. 3,112,199 (the '199 patent by Camerini et al.) and further in view of U.S. Pat. No. 4,172,896 (the '896 patent by Uno et al.). Reconsideration and allowance of all claims is hereby respectfully requested in light of the following Remarks.

### **REMARKS**

The pending claims 11-19, 21 and 23 are directed to a method of preparing a salt of 1,2-benzisoxazole-3-methane sulfonic acid comprising a sulfonating step of using 1,2-benzisoxazole-3-acetic acid (starting material) and a sulfonating agent of chlorosulfonic acid and dioxane in a solvent comprising methylene chloride and sodium hydroxide. Advantages of the present method include: 1) selectivity of the sulfonating process for making a salt of 1,2-benzisoxazole-3-methane sulfonic acid; and 2) high purity and less side-product for the end-product.

### **Rejection Under 35 U.S.C. §103(a)**

Claims 11-19, 21 and 23 stand rejected under 35 U.S.C. §103(a) as allegedly being obvious over the '199 patent and the '896 patent. Applicants respectfully traverse these rejections and request that they be withdrawn.

The Examiner alleges that '199 patent and the '896 patent teach processes which are analogous to the claimed process and that the difference lies "merely in the variation of reagents and other reaction conditions."

As compared to the claimed method, the '896 patent discloses using a different starting material in a sulfonation reaction with different sulfonating agents in different solvents to prepare the same end-product.

As compared to the claimed method, the '199 patent discloses using a different starting material in a sulfonation reaction with a sulfonating agent in a different solvent to prepare the different end-product.

The starting materials in both '896 patent and '199 patent are different from the claimed process. The end-product of '199 patent is also different from the claimed process. Totally different reagents and solvents are used in these patents.

#### **'199 Patent**

The '199 patent is directed to methods for making laminates. Specifically, it discloses treating a film of crystalline polypropylene with chlorosulfonating agents, such as conc. sulfuric acid, oleum, phosphosulfonic acid, sulfuryl chloride, chlorosulfonic acid or the like, whereby reactive chlorosulfonic groups are introduced into the polypropylene at the surface of the film. It also discloses solvents of chloroform, dichloroethylene and trichloroethylene (See, e.g., col. 2, lines 12-30).

However, the '199 patent fails to disclose or suggest the use of 1,2-benzisoxazole-3-acetic acid, dioxane, methylene chloride and sodium hydroxide. It also fails to disclose or suggest a process for preparing benzisoxazole methane sulfonic acid.

#### **'896 Patent**

According to the Examiner, the '896 patent teaches a generic process for the preparation of methane-sulfonamide derivatives. The Examiner specifically cited the '896 patent specification of "col. 2, lines 17-50."

Applicants respectfully point out that this section of specification of the '896 patent teaches an amination reaction (not a sulfonation reaction) of compound II with an amine (compound III) and "dioxane" is disclosed as a solvent. Applicants submit that this amination reaction is different from the sulfonation reaction as claimed (the former adds a  $\text{NH}_2$  group while the latter adds a  $\text{SO}_2$  group).

The '896 patent fails to disclose or suggest the use of dioxane, methylene chloride and sodium hydroxide, let alone in a sulfonation reaction of 1,2-benzisoxazole-3-acetic acid to obtain a salt of benzisoxazole methane sulfonic acid.

The synthetic route adopted by the '896 patent is disclosed in the Background section in the present application (page 2, lines 1-22). In the '896 patent, dioxane is disclosed as being used as an inert solvent in the amination reaction ('896 patent, col. 2, lines 43-49). There is no motivation or suggestion in the '896 patent to use dioxane as a reagent, let alone that it is used to produce a selective sulfonation reaction of 1,2-benzisoxazole-3-acetic acid to obtain a salt of benzisoxazole methane sulfonic acid.

#### **Lack of Motivation or Suggestion to Combine '199 Patent and '896 Patent**

There is no motivation or suggestion in the '199 patent to combine its teaching of chlorosulfonic acid with that of '896 patent (i.e., dioxane). Absent some teaching or suggestion, explicitly or implicitly found in the '199 patent, that would motivate one of skill in the art to make the claimed combination the *prima facie* obviousness rejections must fail.

In re Geiger, 815 F2d, 686 (Fed. Cir. 1987) illustrates the controlling legal point. Geiger involved claims directed to a three-component composition for controlling scale and corrosion in cooling water systems (e.g., Zn ions, a specific copolymer, and an organo-phosphorus acid). The claims were rejected as *prima facie* obvious. Taken together the cited prior art references taught all three components claimed in similar compositions used for controlling scale and corrosion in cooling water systems. However, each reference taken alone lacked a teaching of at least one component of the claims. Nowhere in any of the references was there any suggestion or motivation to choose the claimed combination of components. On these facts, the court held that *prima facie* obviousness could not be established; and, consequently, no showing of unexpected results was required. Accordingly, Applicants submit that the rejections of claim 11 and claims depending therefrom (i.e., claims 11-19, 21 and 23), are all improper and should be withdrawn.

In short, the references taken alone or in combination do not teach every element of our claims, or any motivation to combine. Moreover, the claimed process is shown to be selective in sulfonating 1,2-benzisoxazole-3-acetic acid to obtain a salt of benzisoxazole methane sulfonic acid with high purity. None of the references teach or provide any motivation of a selective sulfonation reaction for 1,2-benzisoxazole-3-acetic acid to obtain a salt of benzisoxazole methane sulfonic acid.

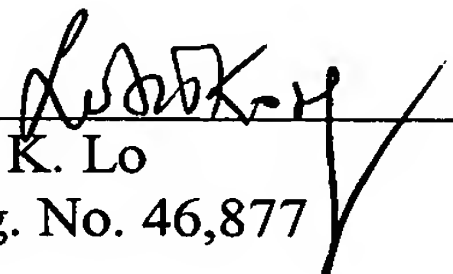
For at least the reasons set forth herein, Applicants respectfully submit that all the rejections have been overcome and all the pending claims are allowable.

### CONCLUSION

Accordingly, withdrawal of the rejection and allowance of the present application are respectfully requested. The Examiner can reach undersigned at (212) 908-6018 when she takes this application up for further action.

Respectfully submitted,  
KENYON & KENYON

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